

## Activating Prior Knowledge

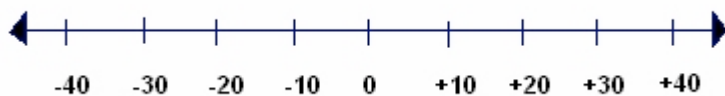
### What Is an Integer?

*Integers* are numbers such as +3, -5, +10, -1, and 0.

We put + in front of a number to indicate it is a *positive integer*.

We put - in front of a number to indicate it is a *negative integer*.

We can show integers on a number line.



The negative integer, -10,  
is 10 units less than 0.

The positive integer, +30,  
is 30 units greater than 0.

### Quick Review

#### Example 1

Use a positive or negative integer to represent each situation.

a) diving 25 m below the ocean's surface

b) a temperature of 15°C

#### Solution

a) The ocean's surface is at 0 m.  
0°C.

b) The temperature is greater than  
0°C.

The diver is below the ocean's surface. So, the temperature is +15°C.

So, the diver is at a depth of -25 m.

### Check

1. Mark each integer on a number line.

a) +2

b) -6

c) -3

d) +8

2. Use a positive or negative integer to represent each situation.

a) The water level rises 4 cm after a low tide.

b) The average temperature close to the South Pole is 50°C below 0°C.

c) You earned \$19 since yesterday.

d) The time is 11 s before blast-off.

e) You walk down 7 stairs.

f) You ride up 6 floors on an elevator.

g) The golfer took 3 strokes fewer than par.

3. Use question 2 as a model.

Use each integer below to describe a situation.

a) +5

b) -4

c) +110

d) -150

**Comparing and Ordering Integers****Quick Review**

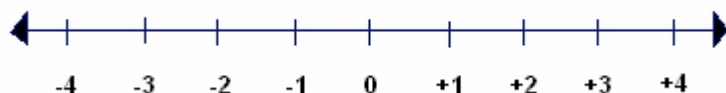
Positive integers, such as +5, +9, +1, are greater than 0.

Negative integers, such as -5, -9, -1, are less than 0.

Any positive integer is greater than any negative integer.

For example, +1 is greater than -1000.

We can use a number line to help us compare and order integers.



We use the symbols  $>$  and  $<$  to show order.

-3 is to the left of +1; so, -3 is less than +1, and we write:  $-3 < +1$

+3 is to the right of -4; so, +3 is greater than -4, and we write:  $+3 > -4$

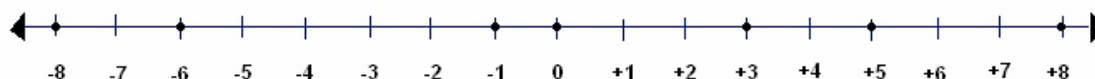
**Example 2**

Order these integers from least to greatest: +5, -6, +3, -8, 0, -1, +8

**Solution**

+5, -6, +3, -8, 0, -1, +8

Sketch a number line from -8 to +8. Mark a point on the line for each integer.



For least to greatest, read the integers from left to right: -8, -6, -1, 0, +3, +5, +8

**Check**

4. Order the integers in each set from least to greatest.

a) +5, -3, +4

b) 0, +6, -6

c) +6, -6, +5, +3, -3

d) -8, +9, -10, +11, -12

e) 0, +2, -3, +4, -6

f) -30, +25, -12, -5, +7

5. Copy each statement. Use  $<$  or  $>$  to show which number in each pair is greater.

Use a number line if it helps.

a)  $+2 \cdot +8$

b)  $0 \cdot -5$

c)  $-7 \cdot 0$

d)  $+250 \cdot -251$

e)  $-100 \cdot -70$

f)  $-361 \cdot -360$